

1 **ABSTRACT**

2 File availability in distributed file storage systems is improved by initially
3 placing replicas of a file or other object on different ones of multiple devices using
4 a first process. Subsequently, the placement of the replicas is improved by
5 evaluating whether any replicas of a first file can be swapped with any replicas of
6 a second file without a reduction in the combined file availability of the first and
7 second files, and swapping a replica of the first file with a replica of the second
8 file if the swapping results in no reduction in the combined file availability of the
9 first and second files.

10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25